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Methylcytisine

Solvent was removed from fractions 16–21 and the residue treated with aqueous picric acid. Repeated crystallisation from hot water gave methylcytisine picrate (86 mg) as needles, m.p. and mixed m.p. 222°–224° (decomp.).

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FATTY ACID COMPOSITION AND OTHER CHARACTERISTICS OF SUBCUTANEOUS FAT FROM NEW ZEALAND OXEN AND SHEEP

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Summary

Chemical and physical constants of subcutaneous fats from sheep and oxen were determined and compared with those of perinephric fats.

The fatty acid composition of beef subcutaneous fats revealed the presence of substantial amounts of palmitoleic acid, which were, however, lower than those reported overseas. The low melting points, considerable stability against atmospheric oxidation, and the high ratio of palmitic : stearic acid of these fats make them a potentially valuable raw material for New Zealand soap, margarine, and stearic acid industries.

Because of their higher content of oleic acid the outer back fats of sheep have lower melting points and titres than the corresponding perinephric fats. However, compared with subcutaneous beef fats, the palmitoleic acid content is lower, and the ratio of palmitic : stearic approaches unity.

The differences in composition between subcutaneous and perinephric fats vary with species, a phenomenon which makes it difficult to explain variations in iodine value in terms of growth rate or temperature at site of deposition as suggested by earlier workers.

INTRODUCTION

The early experiments of Henriques and Hansen (1901) established that the iodine values and setting points of pig fats varied with the site of deposition. The iodine value progressively increased from perinephric fat to inner back fat to outer back fat. Later work (Dugan *et al.* 1952; Dahl, 1957, a, b, 1958) disclosed similar trends in oxen and sheep. The heart fat in oxen showed the lowest iodine value of all fat deposits (Dahl, 1958). At the other extreme it is well known (*cf.* Hilditch, 1956) that the hoof and trotter fats of sheep and oxen have much higher iodine values than those of the depot fats generally. The reasons for the differences in the composition of fats from different parts of animals as judged from the iodine values have not been clarified. From their work on the pig Henriques and Hansen (1901) considered that the temperature at the site of deposition was the main controlling factor. In support of this theory they showed that the outer back fats of a pig covered with a sheep skin had distinctly lower iodine value than those of the control animal. On the other hand, Callow (1935, 1938) showed that whereas the temperature along the back fat of the pig was fairly uniform there were considerable variations in iodine value which were related to the thickness of the fat layer. He suggested therefore, that the iodine value was inversely correlated with the rate of growth of the fatty tissues. This correlation, Callow considered, was due to the fact that the fat in fatty tissues consists of endo-